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ABSTRACT

The fourth of five documents developed as an outgrowth of funded programs for career education in Kentucky, the handbook for junior high school teachers involved in career education includes an overview, strategy for curriculum development, strategy for teaching, and sample units and plans. It is not a curriculum guide or comprehensive outline but rather practical suggestions for the classroom teacher. The 15 occupational clusters are listed and broadly defined. Elaborating on the career exploration stage of career development, applications in junior high school subject areas are touched on and the following teaching strategies outlined: (1) the interview, (2) research, (3) class meetings, (4) field trips, and (5) the use of specialists. A form is offered to assist in unit planning and examples of teacher developed units demonstrate an approach to integrating career education and the academic areas of mathematics, sociology, English, fine arts and humanities, social studies, and geography. (MW)

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CURRICULUM DEVELOPMENT CENTER

VOCATIONAL EDUCATION

UNIVERSITY OF KENTUCKY

LEXINGTON, KY. 40506

CAREER EXPLORATION--

Suggestions for Teachers

Prepared By

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PREFACE

This booklet is one of five documents developed as an outgrowth of funded programs for career education in Kentucky. These documents are:

I. Comprehensive Career Education

II. Implementing Career Education--Procedures and Techniques

III. Career Awareness--Suggestions for Teachers

IV. Career Exploration--Suggestions for Teachers

V. Career Preparation--Suggestions for Teachers

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Purpose of Booklet

The purpose of this booklet is to aid teachers who are not familiar with the concepts involved in career education in developing their own materials (based on the resources available in their communities) for use in implementing career education in the classroom. It is not a curriculum guide or a comprehensive outline integrating learning skills and careers; rather it is an overview of career education potentials which attempts to give practical help to the classroom teacher.

Comprehensive Career Education

Career education has been defined in a variety of ways, but not to the satisfaction of everybody. Basically it concerns itself with restructuring the subject matter content of educational systems in a manner which predisposes student involvement in the world of work from an early age until they leave school to take their places as productive members of society. It is a concept which could add relevance to education for all of our young people. Career education refocuses the curriculum toward career possibilities without diminishing the quality of educational opportunities for the college-bound student; rather, these students will also benefit from career education because they will have been exposed to the real working conditions of occupations and can thus make more realistic career decisions prior to spending four or more years in college.

Career education embodies a concept designed to decrease the dropout rate by exemplifying the utilitarian value of the various academic subjects in the adult life of working people. It is also a pragmatic approach to revitalizing the work ethic. Hoyt,[1] et al, states that a new work ethic must be developed

[1]Kenneth Hoyt, et al, Career Education: What is it and How to do it (Salt Lake City: Olympus Publishing Company, 1972), p. 40.

and taught in early childhood to be most efficient, and this new work ethic should have at least four elements: (1) the value of volunteer activity, (2) the dignity of all work, (3) the satisfaction of human service, and (4) the necessity of multiple careers. Above all, he states it should emphasize that we are what we achieve, whether in service or character development. By revitalizing the work ethic we might, in turn, decrease the number of participants in welfare programs and increase the number of persons with positive self-images who have made career decisions based on both a knowledge of self and a knowledge of the world of work. These knowledges will derive largely from a continuum of planned educational experiences integrating the world of work with subject matter areas and skills development, both inside and outside the school environment, and will facilitate realistic career decisions incorporating interests as well as capabilities.

Career education is concerned with helping young people make realistic decisions regarding their own futures and defining the role education plays in those futures. Consequently, the guidance counselor plays an important part in career education programs. It is the guidance counselor's role to help students develop a positive and realistic self concept, an understanding of the world of work and the relationship between work and education, and an understanding of the decision-making process.

Consistent with career development concepts, career education can be divided into five phases:

(1) the awareness phase to help all individuals become familiar with the values of a work-oriented society, and emphasized primarily in grades K-6 but extending throughout life.

(2) the orientation phase to provide appropriate educational experiences which enable the individual to become familiar with the economic system, and emphasized in grades seven and eight but continuing throughout the educational experiences.

(3) the exploration phase to allow the student to explore various occupational clusters, to obtain initial work experience, and

to integrate work values into their personal value system; this may begin in grade seven and may extend through grade ten.

(4) the preparation phase to encourage the individual to narrow his choice of careers and prepare him to enter the labor market or continue his education in order to enter the labor market at a different level of employment; this phase may begin in grade ten and end either at grade twelve, in post-secondary level, at the close of a continuing education program or advanced graduate or post-graduate program.

(5) the adult and continuing education phase to assist in the individual's advancement and aid adults in discovering, analyzing, and preparing for new careers.

The basic elements that permeate all career education are:

(1) CAREER AWARENESS
A knowledge of the total spectrum of careers.

(2) SELF AWARENESS
A knowledge of the components that make up self.

(3) ECONOMIC AWARENESS
Perceived processes of production, distribution and consumption.

(4) EDUCATIONAL AWARENESS
Perceived relationship between education and life roles.

(5) SKILL AWARENESS AND BEGINNING COMPETENCE
Ways in which man extends his behaviors.

(6) DECISION-MAKING SKILLS
Applying information to rational processes to reach decisions.

(7) EMPLOYABILITY SKILLS
Social and communication skills appropriate to career placement.

(8) APPRECIATIONS, ATTITUDES
Life roles, feeling toward self and others in respect to society and economics.

And the element outcomes are:

(1) CAREER IDENTITY
Role or roles within the world of work.

(2) SELF IDENTITY
Knowing one's self.

(3) ECONOMIC UNDERSTANDING
To solve personal and social problems in an economic environment.

(4) EDUCATIONAL IDENTITY
Ability to select educational avenues to develop career plans.

(5) EMPLOYMENT SKILLS
Competence in performance of job related tasks.

(6) CAREER DECISIONS
Career direction with a plan for career development.

(7) CAREER PLACEMENT
Employed in line with career development plan.

(8) SOCIAL SELF FULFILLMENT
Active and satisfying work role.

To be most effective a career education program must be: (1) comprehensive in the sense that it is broadly based, (2) dynamic with the capacity to change and grow, (3) programmatic in the sense that it draws together many aspects of total education and draws upon the resources of industry, the community and the home, and (4) sequential in that career development is a step-by-step process. One desirable aspect of career education is the location of an employment service in the high school for direct placement of students in jobs and/or on-the-job training.

Since career education is a life-centered program, much of the subject matter taught in the schools can be integrated with occupational information; but no basic skills, techniques and knowledges in subject matter areas are neglected. Rather, career education complements the skills, techniques and knowledges acquired by exemplifying the function of education in the world of work. For simplification purposes the world of work has been divided into clusters which can be incorporated into the regular curriculum at any grade level.

As stated previously career education can be divided into five phases--awareness, orientation, exploration, preparation, and adult and continuing education. In this booklet we are concerned only with the exploration phase which will be discussed in more detail later.

To aid in facilitating a strategy for curriculum development for career education, the United States Office of Education devised the cluster system.

Strategy for Curriculum Development

The cluster system is a means of organizing the world of work. It is a logical breakdown of occupations and a grouping of those which have some basic commonalities. The United States Office of Education identified fifteen occupational clusters which are listed below along with a few of the occupations found within the clusters. There are, of course, many others.

I. Agribusiness and Natural Resources

a. Jobs in the agribusiness production family: field worker, field supervisor, production superintendent, farm manager, farm owner and manager.

b. Jobs in the agribusiness supplies family: warehouse assistant, warehouseman, farm serviceman, store manager, field technician, agricultural engineer.

c. Jobs in the agribusiness mechanics family: assemblyman, mechanic, shop foreman, parts manager, machinery designer, research engineer.

d. Jobs in the agribusiness products family: meat plant worker, butcher, products grader, milk processing plant worker, ice cream plant worker, product packer, livestock buyer, produce inspector, laboratory technician.

e. Jobs in the horticulture family: florist helper, greenhouse worker, garden center salesman, greenhouse supervisor, florist, landscape architect.

f. Jobs in the natural resources family: conservation aid, game farmer, fish hatchery worker, game warden, forest ranger, soil scientist, environmental engineer, coal miner, oil field worker, lumberman.

II. Business and Office

a. Jobs in the clerical family: clerk typist, file clerk, office machines operator, receptionist, stenographer, bookkeeper.

b. Jobs in the secretarial family: executive, bilingual, educational, legal, medical, foreign service, civil service, technical.

c. Jobs in the data processing family: tape librarian, key punch and coding equipment operator, computer and console operator, programmer, systems analyst.

d. Jobs in the management family: personnel manager, credit and collection manager, clerical and office supervisor, budget management analyst, administrative assistant.

e. Jobs in the business ownership family: personal services, business services, transportation, manufacturing, construction, retail franchise, dealership.

III. Communications and Media

a. Jobs in the audio-visual family: commercial photographer, lithographer, photo engraver, film production worker, model, darkroom processor, recording equipment technician, recording artist, electronics systems technician, audio systems technician.

b. Jobs in the language family: sign painter, illustrator, advertising personnel, foreign service worker, interpreter, symbol designer.

c. Jobs in the publishing family: bookbinder, typesetter, proofreader, creative writer, sports reporter, editor, typist, publisher, illustrator.

d. Jobs in the broadcasting family: radio and television announcer, actor, news reporter, musician, technician, repairmen, satellite transmission technician, laser transmission technician, federal and international communications personnel, scriptwriter.

e. Jobs in the line communications family: data transmission technician, systems analyst, programmer, computer and console operator, peripheral equipment operator, Morse code operator, telegraph and telephone lineman, telephone operator, business office personnel, repairman.

IV. Construction

a. Jobs in carpentry family: dock carpenter, maintenance carpenter, hardwood flooring carpenter, billboard erector and repairman, joiner, acoustical carpenter, wood boatbuilder, carpenter inspector.

b. Jobs in the painting and decorating family: rough painter, structural steel painter, boat painter, painter and decorator apprentice, waterproofer.

c. Jobs in the heating family: hot air furnace installer, helper, repairman.

d. Jobs in the roofing family: roofer helper, corrugated sheet material sheeter, roofer apprentice, roofer.

e. Jobs in the glazier family: glazier foreman, glazier helper, glass installer, glazier in construction.

f. Jobs in the plastering family: plaster helper, permastone dresser, molding plasterer, plasterer, leather, stucco mason.

g. Jobs in the drywall installers family: dry-wall applicator, sander, taper.

h. Jobs in the masonry family: tuck pointer, terrazzo worker, stone mason, soft-tile setter, permastone man, monument setter, marble setter, bricklayer (firebrick, tile), chimney repairman.

V. Consumer and Homemaking - Related Occupations

a. Jobs in the foods and nutrition family: dietitian, nutritionist, food salesman, kitchen manager, cook, steward, stewardess waiter, waitress, cashier.

b. Jobs in housing and home management family: interior designer, equipment home economist, salesman, window dresser, hospital housekeeper, hotel housekeeper, painter, chambermaid, custodian.

c. Jobs in the clothing, textile, and fashion family: teacher, extension specialist, fashion editor, weaver, buyer, salesperson, dressmaker, tailor, presser, inspector, checker, designer.

d. Jobs in the family and child development family: teacher (early childhood education), social service worker, director of day care center, paid companion, child care aide, babysitter.

VI. Environmental Control Occupations

a. Jobs in the land family: mine inspector, ecologist, geologist, horticulturalist, conservation worker, park director, camp counselor, forest ranger, landscape architect, game warden, seismologist.

b. Jobs in the water family: water purity inspector, microbiologist, public water supply worker, coast guard member, chemical engineer, public health worker.

c. Jobs in the air family: anti-air-pollution equipment designer and builder, air-pollution inspector, plant inspector, filter maker, environmental technician, allergist, industrial engineer.

d. Jobs in the disposal family: garbage collector, city dump yard work, sewer line worker, city engineer, industrial engineer, junk dealer.

VII. Fine Arts and Humanities Occupations

a. Jobs in the art family: painter, portrait artist, sculptress, printmaker, designer, interior decorator, potter, jewelry designer, jewelry maker, weaver, textile designer, set designer, T.V. illustrator, magazine or newspaper illustrator, cartoonist, art teacher, crafts teacher, architect, art historian, museum worker.

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b. Jobs in the music family: opera singer, night club singer, folk singer, recording artist, band director, instrument player, church organist, vocal teacher, instrument teacher, instrument tuner, instrument maker, music store clerk, song writer, lyrics writer, music publisher, music critic, music historian.

c. Jobs in the dance family: dance instructor, ballet dancer, belly dancer, night club entertainer, stage entertainer, television or motion picture entertainer, folk dance teacher, choreographer.

d. Jobs in the drama family: actor, actress, director, producer, stage manager, ticket salesman, costume designer, cameraman, set designer, usher, lighting expert.

e. Jobs in the literature family: poet, novelist, short story writer, teacher, playwright, literary critic, proofreader, editor, publisher.

f. Job in the philosophy family: teacher.

g. Job in the humanities field: teacher.

VIII. Health Occupations

a. Jobs in the administration family: public health administrator, hospital administrator, assistant administrator, clinic administrator.

b. Jobs in the prevention and control family: environmental engineer, sanitation engineer, microbiologist, epidermiologist, food and drug inspector, nutritionist, school health educator, hygienist.

c. Jobs in the treatment and care family: doctor, physician's assistant, dentist, dental assistant, dental hygienist and technician, nurse, practical nurse, psychiatric aide, medical technologist, dietitian, hospital cook, orderly, ambulance driver, medical librarian, medical records clerk, pharmacist.

d. Jobs in the rehabilitation family: physical therapist, occupational therapist, speech and hearing therapist, prothesis and restoration technician, social worker, optician.

e. Jobs in the health education and communication family: health educator, medical illustrator, medical librarian, health economist, nutritionist.

f. Jobs in the medical research family: biochemist, biophysicist, epidermiologist, radiologist engineer and technician, statistician.

IX. Hospitality and Recreation Occupations

a. Jobs in the hospitality family: restaurant owner, waiter, waitress, chef, doorman, desk clerk, bartender, hat-check girl, dancer, vocalist, musician, porter, motel manager, hostess, cashier, laundry worker, dish washer, short order cook, restroom attendant.

b. Jobs in the recreation family: life guard, pin boy, professional athlete, skating rink attendant, ski lodge desk clerk, bicycle repairman, snowmobile salesman, dock manager, boat repairman, camp director, camp counselor, crafts director, naturalist, Girl Scout or Boy Scout field director, Y.W.C.A. or Y.M.C.A. worker, playground director, safari guide, carnival worker, circus performer, sports writer, ticket salesman.

X. Manufacturing

a. Jobs in management: plant manager, production manager, personnel manager, researcher and developer, designer.

b. Jobs in personnel technology: labor relations personnel, human engineer, training personnel, retirement counselor, labor consultant, stenographer.

c. Jobs in engineering: designer, draftsman, technical writer, production cost estimator, production researcher, clerk and stenographer.

d. Jobs in production technology: electrician, millwright, material testor, quality controller, fabrication specialist, machine installer, packaging personnel, distribution personnel, product servicing personnel.

e. Jobs in production: process planter, warehouseman, material handler, machine operator, craftsman, fabrication specialist, machine installer, packaging personnel, distribution personnel, product servicing personnel.

XI. Marine Science

a. Jobs in the oceanography family: biological, physical, geological and chemical oceanographer, oceanography teacher, laboratory assistant, marine technician, marine miner, under-sea warfare engineer, ship crewman, submarine crewman, radio operator.

b. Jobs in the limnology family: biological, physical, geological and chemical limnologist, public health service scientist, fish culture technician, laboratory technician, water power engineer, flood gate operator, army engineer, microbiologist.

XII. Marketing and Distribution

a. Jobs in the management and mid-management family: store manager, advertising manager, assistant store manager, buyer, assistant buyer, management trainee.

b. Jobs in the supervision family: department supervisor, warehouse supervisor, floor supervisor.

c. Jobs in the personnel family: personnel department manager, inservice trainer.

d. Jobs in the marketing system: salesman, bridal consultant, personal shopper, demonstrator, manager of distribution warehouses, driver salesman, route salesman, export manager, import-export agent, customs house broker, buyer, sales promotion personnel such as copywriter, artist, lay-out man, display person.

e. Jobs in marketing services: broker, floor representative, financial service salesman, securities trader, credit department personnel, estate planner, claims adjustor, investigator, life underwriter, market analyst.

XIII. Personal Services Occupations

a. Jobs in the human body family: dressmaker, tailor, shoe shine boy, barber, cosmetologist, shoe repairman, ambulance driver, dentist, doctor, bartender, minister, cook, teacher, librarian, masseur.

b. Jobs in the home and property family: babysitter, detective, nursery school director, repairman, house painter, cabinet maker, insurance agent, furniture repairman, yardman, landscape architect, garbage collector, paper boy, domestic helper, interior decorator.

c. Jobs in the business and economics family: bank clerk, bail bondsman, messenger boy, secretary, lawyer, welfare worker.

XIV. Public Service Occupations

a. Jobs in the local service family: fireman, policeman, city councilman, school superintendent, school board member, deputy sheriff, jailer, telephone operator, city bus driver, life guard, mailman, paper boy, broadcaster, water purification worker, electrical worker.

b. Jobs in the state service family: state policeman, governor, superintendent of public instruction, child welfare worker, state park director, bus driver, mental health worker, rehabilitation worker, meat inspector, ecologist, worker at state university.

c. Jobs in the national service family: F.B.I. man, armed serviceman, congressman, army depot worker, taxpayer assistant, social security clerk, agricultural researcher, food and drug inspector, national guardsman, weather bureau worker, federal judge, national airline pilot, public health doctor, veteran's hospital nurse, geological surveyor, national park worker, labor relations mediator, lock and dam attendant, postal inspector, federal prison guard.

d. Jobs in the international service family: international airline stewardess, international policeman, United Nations clerk, interpretator, ship's crewman, overseas telephone operator, embassy worker, narcotic agent, satellite communications technician, exporter-importer.

XV. Transportation

a. Jobs in the land transportation family: taxi driver, automobile designer, used car salesman, auto mechnaic, auto body repairman,

motorcycle repairman, bus driver, ticket agent, travel agent, teamster official, railroad engineer, truck driver, porter, traffic policeman, bicycle salesman.

b. Jobs in the water transportation family: dock worker, longshoreman, navigator, radio operator. lighthouse keeper, barge owner, seaplane or navy pilot, professional water skier, boat builder, merchant marine, travel agent, ship's nurse, submarine mechanic.

c. Jobs in the aerospace family: airline hostess, co-pilot, ticket agent, airplane mechanic, airplane designer, traffic controller, astronaut, computer operator, space suit designer, dietician, television technician, steelworker, electrician.

d. Jobs in the conveyor family: pipeline welder, equipment operator, structural worker, geologist, driller, rigger, engineer, surveyor, refiner worker, elevator operator, cable car conductor, machinery repairman.

It should be obvious from the job titles listed in the various clusters that an occupation may fall within more than one cluster, and it should be equally obvious that there is nothing sacred about this particular cluster system. Some schools incorporate all careers into eight or ten clusters of their own making, while others have developed as many as thirty-five clusters. For example, a cluster could be developed around the field of electricity, or the paper industry, or water, or eyesight. The possibilities are almost endless.

Another approach is to cluster the careers around the subject matter areas with teachers correlating the world of work with academic fields.

Regardless of the structure chosen as a means of fusing career education with the curriculum, nothing in the way of skills and knowledges needs to be deleted from the academic field.

The Exploration Stage

The exploration stage of career education is generally covered in grades seven, eight and nine. However, if the concept of career education is new to the school and/or the school system, an orientation period with an introductory

unit, which will familiarize both the classroom teacher and the students with the world of work as outlined in the cluster system, seems to be beneficial. Essentially, the exploration stage is an in-depth study of careers. It varies from the awareness stage primarily in complexity, and in the content of career education units. Not as many career education clusters are explored, and those which are explored are examined closely for the working skills and knowledge needed to be successful in a given career. These working skills and knowledges are acquired where feasible through what is commonly called in career education, "hands-on" experiences, e.g., the student explores some of the actual working conditions and techniques of a given job in an actual or a simulated situation. This presents some problems in logistics which seem overwhelming, but which are not insurmountable. A good starting point would be the utilization of working parents as "teachers" of their own careers, with additional parents supplying transportation to career sites for small group study of the actually working environment and possible "hands-on" experience, such as actually helping make bread in a bakery (or running a bakery for work experience and a study of economics in the school cafeteria during the school hours when meals are not being served).

Child labor laws and teacher liability, among other things, tend to inhibit teachers from exposing young people to situations containing real or potential danger, thus limiting "hands-on" experiences in many careers. However, a great deal about careers can be learned from observation at career sites even though the "hands-on" experiences are vicarious ones.

Simulated experience in career education is commonly practiced at the junior high school level. An example of the use of simulated experiences could be found in making a model house to scale, out of scrap or donated materials, to study the careers of architecture, draftsmen, contractors, carpenters, masons, roofers, electricians, plumbers, kitchen planners, the carpeting

industry, landscape designers, etc. It is a relatively simple matter to decide where mathematics, history, English, art, social studies, etc., can be integrated with the unit. If a sound system is added, the science of acoustics as well as the acoustics industry could be studied, and this in turn could lead into the music field; the study of stereo, the recording industry, ad infinitum. If it is to be a long unit, homes in different cultures could be studied with emphasis on the relationship between construction and environment. The possibilities for using career education as a vehicle for transporting the academic areas from the abstract to the utilitarian, for the sake of relevance, are limited only by the creativity of teachers and students. A school structured for self-contained classrooms or team teaching lends itself more readily to incorporating career education with the general curricula than does the departmentalized junior high school structure; but even in the departmentalized situation a teacher with ingenuity can accomplish much.

Since the exploration phase of career education is more in depth than the awareness phase, some planning has to be done at the administrative level to avoid excessive overlapping or repetition of occupational information and experiences. One approach is to divide the fifteen clusters into three groups of five clusters each. Then one group of clusters can be introduced and explored in the seventh grade, another in the eighth grade, and the remaining group studied at the ninth grade level.

If a team teaching approach is used, the responsibility of each team member needs to be defined. Using the manufacturing cluster as an example, the responsibilities might be divided in the following way:

English: The teachers will deal with the communications skills and their use in manufacturing with regard to production, public relations, promotion, and advertising. They could also deal with interview techniques.

Social Studies: The teachers will be responsible for introducing the cluster, furnishing the historical background, exploration of labor relations and unions, and dealing with the social and economic effects of manufacturing on people in various clusters.

Mathematics: The teachers will deal with those computation skills needed to order supplies, estimate costs, build machinery, figure a payroll, estimate price and related activities for a specific manufacturing operation.

Science: The teacher will deal with the laboratory knowledges and techniques needed to develop, control quality and test efficiency of the end product, to run the plant itself, to minimize the damage waste products due to the environment, to explore engineering techniques needed in the manufacturing of a specific product, and any appropriate physics.

Home Economics: The teachers will explore the cost and quality of the product and the implications for consumers and homemakers.

Industrial Arts: The teachers will provide opportunities for students to have "hands on" experiences in manufacturing skills.

Business and Office: The teacher will develop business and office experiences related to manufacturing, labor unions, public relations and related fields.

Librarian: The librarian will function as a resource person and supply materials on manufacturing to teachers and students.

Art: The teacher will develop units dealing with the design, display and advertising of machinery and/or end products, as well as activities related to the aesthetic development of the students.

Music: The teacher will develop units dealing with songs and music related to work, composing music, lyrics and/or musical plays developed around the manufacturing theme, as well as activities related to the aesthetic development of the students.

Physical Education: The teacher will provide experiences related to industrial health problems, coordination skills necessary to perform certain tasks, recreation and leisure time activities, personal health and physical fitness.

Obviously, it would be desirable to use a factory near the school, or within busing distance, for this cluster exploration, but if none exists the public relations director for many industries will supply free films and materials for school use.

The individual teacher will have to work out a plan whereby career education is integrated into the entire curriculum. It becomes necessary to identify the skills to be taught in the subject areas, the subject area content, the career concept to be taught, the techniques to be used and the activity to coordinate skills and career concepts. Some of the basic skills to be developed are listening, thinking, contrasting, differentiating, researching, inquiring, decision-making, problem-solving, questioning, etc. The following techniques were developed by Barbara Preli, Coordinator for Career Education, Louisville Public Schools.

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Interview

The interviewing process is an excellent means of research, inquiry, listening, and communicating. It can be confucted as a class or by an individual.

Initial Activity:

1. Develop with the class, by means of the class meeting, rules and procedures for interviewing.
2. Once the rules and procedures are established, let the student practice on one another or with tapes so they will feel self-confident in the interviewing process.

General Procedure:

1. Choose one student as the interviewer.
2. A day or two before the interview, let the class discuss the questions they feel would benefit them to ask the subject. These can be supplemented by the teacher in a skillful way.
3. The chosen student is responsible for conducting the interview. If the interview is conducted in front of the class, a general question period can be held after the initial interview.
4. If the interview is a private one, the student should report in some way to the class the results of the interview.
5. Always have the student write a thank-you note to the guest.
6. Try to use as many local people as possible. This creates good feelings, and these are people the students see everyday and can associate with.
7. Invitations for speakers may be by teacher or student. Establish class procedure if the student makes the invitation.

Some examples of questions:

1. What schools did you attend?
2. What is your present job?

   How did you get it?
   How long have you worked there?

What time do you go to work?
What do you do on the job during the day?

3. What things do you like most about your job? Least? Are there any hazards?

4. What is the usual starting salary in jobs like yours?

5. What qualifications do you need to get the job?

6. What preparation do you need?

7. What is the outlook for the future? Advancement? Supply and demand for workers?

8. Hours: Regular? Overtime? Evening? Sunday? Holiday? Steady or Seasonal?

(Adapted from material in Occupational Information by Robert Hoppock, McGraw-Hill Book Company, 1967.)

These are just some examples. The students will think of many, many more.

Remind the students of the skills of good listening, not interrupting, changing of subjects, asking the same question again, speaking in turn.

Research

Research should be conducted by every student in every grade level. The amount and the manner of research depends upon the individual student.

Research can be done in many ways:

written
interviews
films and filmstrips
recordings and tapes
books
charts
letters
magazines
newspapers
commercials

The student in some way should keep an account of the information he finds, classify it, compare it to others he has found, differentiate which to keep.

The student should in some manner make the information he has found available to others, e.g., notebook, tape, interview, chart, picture.

Class Meetings

Create an aware, free, accepting atmosphere. The students should feel free to express their views in an appropriate manner.

Establish guidelines in discussion before each session begins. The same guidelines should hold for all sessions. A reminder may be needed until the students acquire the skill. Talk together about being good listeners, not interrupting, keeping to the subject, not talking all the time, waiting turn patiently, not speaking when someone else is, and not raising hands.

Avoid teacher lecture and student-teacher-student exchanges.

Avoid giving positive or negative reinforcement upon a student's statement. Be accepting, not judgmental.

The teacher's role is as a leader but in a silent way. Break a long pause, start a discussion, bring a silent student into the discussion. Keep as much attention away from you as possible.

Roles the teacher might play:

Initiator:	Suggests to the group ideas for discussion or poses a problem to be solved. Can also be used for task orientation.
Clarifier:	Shows or clarifies the relationships among various feelings, ideas, and suggestions or tries to integrate feelings, ideas, and suggestions.
Interpreter:	Interprets feelings expressed by members of the group or class, or interprets the significance of non-verbal behavior.
Reflector:	Reflects feelings expressed by members of the class. Usually limited to individual feelings expressed.
Expeditor:	Encourages and facilitates the participation of others. Stimulates the discussion to a higher degree. Prods the class to decision.
Evaluator:	Subjects the accomplishments of the group to some standard in the context of the group task.

Field Trips

Why?

A field trip can be an excellent means of gathering information on a first-hand basis.

It can be used as an initial or culminating activity.

Workers can be viewed in real-life settings as they carry out their roles and responsibilities.

Field trips can open the community as a classroom.

Who?

The field trip can be a class trip, a small group, or an individual.

Where?

The trip can be held in the school room (imaginary), the school building, the home, the neighborhood, the city.

How?

The class together arranges an appropriate time.

The arrangements can be made by the teacher. The teacher should know the place to be visited and be aware of the important things to see.

Background information should be gathered by doing research before the trip.

The class and teacher should plan together what they expect to see and what questions they should ask. In some cases responsibility for asking those questions might be delegated to certain people.

The trip should be evaluated as a class upon return:

Were our plans adequate?
Were our questions appropriate?
Were our questions answered to our satisfaction?
What things did we observe that were new to us?
What new questions do we now have?

Follow-up activities such as reports, charts, bulletin boards, murals, etc., should be conducted.

A thank-you note should be sent being careful to include the class' observations. A student should be responsible for the note.

Use of Specialists

There are many different types of specialists in every community: farmers, auto mechanics, florists, milkmen, newspaper personnel, radio technicians, repairmen, salesmen, clerks, bank tellers, cafeteria or

restaurant workers, telephone company personnel, plumbers, electricians, carpenters, hair stylists, teachers, doctors, policemen, agricultural extension workers, social workers, local, state and federal employees, pharmacists, local government personnel and garbage collectors to name but a few. All of these people can act as resource people for career education, either through field trips to their places of business or through the interview techniques previously mentioned. There is a wealth of resource people in even the smallest community. The larger the community the greater will be the variety of resource people available. Career education is an excellent vehicle for bringing the school and the community closer together through mutual involvement.

In addition to local specialists, many communities are located within easy driving distance of a college or university where there are many specialists in a wide variety of field work. These specialists devote their time to teaching, research and service. Many of them may be willing to visit schools and discuss their particular speciality. Very specialized workers in some fields might be interviewed by correspondence or telephone conference if the budget permits.

Career education takes on more meaning and relevance when students are in actual contact with working people. Consequently resource people become an integral part of the total program.

Sample Units and Plans

A teaching unit is generally more effective for several resons if students help at the planning stage. The primary reason is psychological. Students cooperate more fully in the learning activities if they are learning something they really want to learn. By helping design the learning package the students are forced to do some thinking, planning and decision-making; they often come up with some very good ideas, too.

There are a number of ways to write a unit. Those which follow point out that not all units will be written in the same manner. The format most generally accepted contains a "main" or "general" objective or "goal" followed by "performance" or "behavioral" objectives. (Teachers writing units are encouraged to do research on the use and writing of behavioral objectives.) Then the "content" or areas to be covered are listed, followed by the "teaching-learning activities," a means of evaluation, and the necessary resource materials needed to teach the unit. A skeletal outline for a career education unit might look like this:

Unit: _____

Cluster: _____

Major Objective: _____

Performance Objectives:

1. _____
2. _____
3. _____
4. _____

Teaching-Learning Activities: (How)

1. _____
2. _____
3. _____

Evaluation: (Relate back to objectives)

1. _____
2. _____
3. _____

References and Resources:

1. _____
2. _____

The following examples of career education units were developed in the Life Center Career Education Project, Louisville Public Schools under the direction of Barbara Preli, Project Director. The math units were developed by Jim Drecher, the English-oriented ones by Edvina Skeeters and Jim Duke. While these units do not follow the same format indicated above, they do indicate one school system's approach to integrating career education and the academic areas.

M A T H

MATH

BUSINESS AND OFFICE

MARKETING AND DISTRIBUTION

A. Suggested Content

1. Acquaint students with general grouping of the occupations within this cluster.

2. Have students send letters of inquiry to the various sources of information concerning these occupations.

3. Have students compile information pertaining to the duties, responsibilities, and requirements of the occupation of their interest, and list the math skills used in this occupation.

4. Survey the want ads in the newspaper for all jobs in this cluster.

5. Conduct interviews with people in these jobs.

B. Skills

1. Logic: students will develop the ability to recognize, organize and attack a problem given a set of circumstances. Emphasis will be on the logical progression toward a solution.

2. Money Management: Students will develop a functional knowledge of money problems and an awareness of financial dealings.

3. Percentage, Proportion, and Ratio: Students will develop functional computational skill in problems of this type.

4. Probability and Statistics: Students will acquire a functional ability to generally sample and predict outcomes based on given situations.

C. Suggested Teaching-Learning Activities

1. Given certain conditions, have each student arrange a schedule for an office day following for the limited times and the conditions.

2. Set up a data processing situation requiring organization and categorization of information.

3. Have an exercise in very fundamental computer programming. This is not necessarily in a "computer language" but merely the logical steps needed to arrive at a desired result.

4. Role-play a situation in which an advertising salesman is estimating costs on several different customer requests. This could also utilize any interest in business management, design, etc.

5. Exercises in accounting situations in which the student must use cost estimation per unit of sales

6. Exercises in marketing in which the student must round-off to arrive at a unit of measure by which to guage his distribution of a product

7. Compute payroll deductions.

8. Salary computations

9. Compute income tax preparation.

10. Set up banking situation with manager, tellers, etc.

11. Keep checking and savings accounts.

12. Set up situations in which students will budget an income using installment buying, rents, etc.

13. Sampling surveys can be taken of certain product uses. Students can figure statistical breakdown on the gathered information.

14. Create a situation where students sample the tendencies of different classes and base distribution of different products upon their findings.

15. A stock market situation in which students buy and sell stocks whose prices fluctuate according to demand

16. A racetrack situation in which odds change according to betting patterns

D. Suggested Evaluation

1. Each student will, if possible, decide upon a career he wishes to explore in this area and be placed for at least two hours on the job with someone in this occupation.

E. Suggested Resources

1. Field Trips

University of Louisville Computer Center
General Electric Data Processing Center
Sullivan or other business college
Car dealer
Accounting firm
Advertising agency
Bank
Loan company
Internal Revenue Service
Insurance company
Stock Brokerage firm
Marketing firm

2. Films and Filmstrips - Louisville Board of Education

M-3218 -- Budgeting
M-1247 -- Algebra in Everyday Life
M-3166 -- Do I Want to be a Secretary
M-3222 -- Economics - The Credit Card
M-3208 -- Flow Process Chart
M-6321 -- People Who Work on Offices
M-1242 -- Percent in Everyday Life
M-3219 -- Retail Credit Buying
M-3300 -- Computer Revolution
M-832 -- Personal Financial Planning
M-833 -- Wise Use of Credit

MATH

MANUFACTURING

A. Suggested Content

1. Discuss and chart the occupations available in these clusters.

2. Interview persons employed in these occupations.

3. Discuss and chart the ways in which math skills are utilized by people in these jobs.

4. Design a class manufacturing project and market it for a profit.

B. Skills

1. Probability

2. Logic

3. Proportion

4. Money Management

C. Suggested Teaching-Learning Activities

1. Have students construct an assembly line upon which a tangible product is assembled. Have a manager organize and assign jobs, supervisor to oversee, etc.

2. Have students obtain a sample survey of the school in order to decide upon what product has the greatest chance of success on the market within the school.

3. Have students test each other for work data, attitudes and convert results into statistical data. Use this data as a personnel manager to place the students within a factory according to their chances for suitability.

4. Have each student design and assemble a product which can be utilized within the classroom. Each student must draft his plans to scale, showing the dimensions of all areas of the product.

5. Have a student play the role of a production controller. He must calculate which production must be slowed and which quickened. Another student must control how much of which product must be shipped to which area for distribution. Assign roles as salesman, etc.

6. Have a situation where students must estimate costs based upon prices for materials, salaries, maintenance, etc.

7. Have students calculate a payroll for a factory, deducting all the necessary percentages for taxes, social security, etc.

D. Suggested Resources

1. Field Trips

General Electric
Ford Motor Company
Hilliard and B. Bat Company
Bakery
Celanese

2. Films and Filmstrips - Louisville Board of Education

M-6230 -- Industrial Revolution - Beginnings in the United States
M-797 -- Making Bricks for Houses
M-760 -- Making Cotton Clothing
M-6065 -- How is Clothing Made - The Story of Mass Production

MATH

COMMUNICATIONS

I. Project Objectives (see the main unit)

II. Specific Objectives (set by each teacher)

III. Occupational Information

Jobs in the audio-visual family: commercial photographer, lithographer, photo engraver, film production worker, darkroom processor, recording equipment technician, recording artist, electronics systems technician, audio systems technician.

Jobs in the language family: sign painter, illustrator, advertising personnel, foreign service worker, interpreter, symbol designer.

Jobs in the publishing family: Bookbinder, type setter, proof-reader, creative writer, sports reporter, editor, typist, publisher, illustrator.

Jobs in the broadcasting family: radio and television announcer, actor, news reporter, musician, technician, repairman, satellite transmission technician, laser transmission technician, federal and international communications personnel, scriptwriter.

Jobs in the communications family: data transmission technician, systems analyst, programmer, computer and console operator, peripheral equipment operator, morse code operator, telegraph and telephone lineman, telephone operator, business office personnel, repairman.

A. Suggested Content

1. Discuss and chart with the class the occupations within this cluster.

2. Interview persons employed in these occupations.

3. Discuss how math skills are used within these occupations.

4. Operate as a class project a television or radio show. Telephone or telegraph office would be another suggestion. Produce a newspaper or magazine.

B. Skills

1. Number Operations

2. Graphing

3. Logic

4. Measurement

5. Geometry

6. Probability

7. Percentages

C. Suggested Teaching-Learning Activities

1. Have students sample from student body in order to determine the preference in TV programming. Keep charts to depict any shift from beginning to end of activity.

2. Have student-newsmen compile news stories from around the school in which they might figure percentages, ratios, etc.

3. Have students lay out a can and string telephone company in which they must calculate the amount of cable needed. Set up so there is a model to scale of an actual city. They might calculate the ratio of diminishing voice power to increasing distances. Include operators.

4. Have students "program" an entire day of broadcasting given certain conditions such as network scheduling, local shows, etc.

5. Have students research, compile, and put on a news show in which all items must be math related.

6. Have students plan, direct, and organize a quiz show.

7. Have students sell advertising to various student sponsors at different rates. Then arrange these commercials into the day's programming.

8. Set up newspaper situation in which students must report all news in mathematical terms. Lay it out and publish it if possible. Assign roles as appropriate to the students' interests.

D. Suggested Evaluation

1. The published newspaper

2. The television program

3. On-site observation

E. Suggested Resources

1. Field Trips

Radio Station
Television Station
Western Union
Newspaper Office
Telephone Company
Publishing Company

2. Films and Filmstrips

M-3221 -- Newspaper Boy (Louisville Board)
F-6300 -- Story of your Newspaper (Courier Journal)
3-32 -- Behind Your Radio Dial (Louisville Free Public Library)
1-353 -- Development of Communication
1-32 -- Expanding World Relationships
3-303 -- Living Machine (computers)
1-74 -- Our Shrinking World
2-87 -- Story of Communication

MATH

TRANSPORTATION

I. Project Objectives - (see main unit)

II. Specific Objectives - (set by each teacher)

III. Occupational Background:

Jobs in the land transportation family: taxi driver, automobile designer, used car salesman, auto mechanic, auto body repairman, motorcycle repairman, bus driver, ticket agent, teamster official, railroad engineer, truck driver, porter, traffic policeman, bicycle salesman.

Jobs in the water transportation family: dock worker, longshoreman, navigator, radio operator, lighthouse keeper, barge owner, seaplane or navy pilot, professional water skier, boat builder, merchant marine, travel agent, ship's nurse, submarine mechanic.

Jobs in the aerospace family: airline hostess, co-pilot, ticket agent, airplane mechanic, airplane designer, traffic controller, astronaut, computer operator, space suit designer, dietician, television technician, frogman, steelworker, electrician.

Jobs in the conveyor family: pipeline welder, equipment operator, structural worker, geologist, driller, rigger, engineer, surveyor, refinery worker, elevator operator, cable car conductor, machinery repairman.

A. Skills

1. Logic
2. Money Management
3. Geometry
4. Number Operations
5. Graphing

B. Suggested Teaching-Learning Activities

1. Have students set up a dispatching situation which students calculate the times at which trucks must leave in order to make a destination on time.
2. Have students, who ride the bus, keep a record of departure and arrival times during a particular week. Then have them find the distance covered in order to compute the speed of the bus.
3. Have students act as navigators for a plane by giving them a set of circumstances from which they must chart a course as well as rate of fuel consumption and necessary speed.
4. If you can locate an electric train set, lay out a course and have the students calculate speeds to scale as well as devise a schedule of arrivals and departures.
5. Have students set up a trucking company in which costs are budgeting, salaries computed, and business records are kept.
6. Have a situation in which stewards or stewardesses must wait on the passengers. They must take orders and calculate what supplies are needed.
7. Have a situation in which ticket sellers conduct business. Give them a schedule of rates for various destinations, as well as a schedule of times.
8. Have students gather as many different time and rate tables from the various transportation companies. Then have them plan the entire trip from start to finish, including means of travel, stops, accommodations. Class could run a travel agency.
9. Have the students keep the mileage on the family car (if possible) and keep a chart on miles traveled and fuel consumed. Graph the results.

C. Suggested Resources

1. Field Trips

Cab company
Bus station
Airport
Trucking company
Train station
U of L Naval ROTC
Jefferson Boat Works
Belle of Louisville

MATH

FINE ARTS AND HUMANITIES

A. Suggested Content

1. Identify the different groups of jobs in this area.

2. Discuss how these areas are for employment as well as leisure time activities.

3. Research jobs in this area.

4. Conduct interviews with persons in these occupations.

5. List how math skills are necessary to those people in their work.

B. Skills

1. Progression

2. Proportion

3. Number Patterns

4. Measurement

5. Percentages

6. Fractions

C. Suggested Teaching-Learning Activities

1. Have students sample the different radio stations and keep graphs of the various types of music played; calculate the percentage.

2. The above activity can be done with any kind of entertainment in Louisville.

3. Have the students trace the history of math by listing the stages of development.

4. Have students use proportions in order to scale down a work of art to a model. Also to achieve the reverse.

5. Have students design a building using metric measurement.

6. Have students use a piece of sheet music in order to add fractions. Use the various beats, 1/2 beat, etc., in order to express the idea.

7. Use musical scores to illustrate progression and number patterns.

8. Have students, as a small group or individually, compose a piece of music having a certain number of beats, a refrain, a repeating set of notes, etc.

9. Have students analyze a poem insofar as the rhythm is concerned. Discover the mathematical pattern involved.

10. Have students analyze a dance in terms of how many of type movement is involved per beat of music.

11. Have students organize a production having dances, music, poems created by themselves.

D. Suggested Evaluation

1. Produce the production created by the group.

E. Suggested Resources

1. Field Trips

Louisville Orchestra
Speed Museum
Actor's Theatre
University of Louisville Drama Club
Junior Art Gallery
Youth Orchestra

2. Films and Filmstrips

M-3080 -- The American Negro Sings
M-3484 -- Art - What It Is? Why It Is?
M-304 -- Art of Motion Picture
M-49 -- Artist and Nature
M-3400 -- Building Better Paragraphs
M-20 -- Creative Design in Painting
M-3443 -- Newspaper Serves Its Community

MATH

HOSPITALITY & RECREATION

A. Suggested Content

1. Discuss and list the jobs within this cluster.

2. Interview persons in these occupations.

3. Discuss how these persons use math skills in their jobs.

4. Set up a model hotel, restaurant, or resort area. Let each pupil assume a role in the operation of the project.

B. Skills

1. Money Management

2. Probability

3. Percentage

4. Graphing

5. Measurement

6. Number Operations

C. Suggested Teaching-Learning Activities

1. Organize and plan with the class to set up a restaurant situation with owner, cook, waiters, waitresses, customers, etc. Each must do their job realistically and compute bills, etc. Waitress--take orders and add bills, owner --keep track of all income and expenses, cooks --know how much food to order given a certain volume of customers.

2. Set up a hotel situation in which there is an owner, desk clerk, social director, etc. Each must also do their duties realistically.

3. Organize and set up a travel agency situation in which students must calculate mileage from a scaled map. Given airline, bus, or other schedules of time and rates, have students figure the times of arrivals and departures and the costs involved.

4. Have each student compute a budget for a week's vacation of his choice.

5. Set up a track meet situation outside in which the students actually measure off (metric) distances and keep the times for the various events.

6. Have each student make up a brochure for his own resort. Have them compete for business by better and better advertising. Have them calculate the approximate cost of the investment needed for such a resort to become a reality.

7. Have students develop sports franchises and conduct a player draft. Then have the players' agents negotiate on a salary.

8. Have students compile a chart of attendance at various sports events. Then they can compute percentages of capacity at stadiums and compare one sport to another.

D. Suggested Resources

1. Field Trips

   Restaurant
   Hotel
   Travel Agency
   Fairgrounds
   YMCA
   State Park Lodge

2. Films and Filmstrips - Louisville Board of Education

   M-2108 -- Restaurant Operator

MATH

PUBLIC SERVICE

A. Suggested Content

1. Acquaint students with general groupings of the occupations within this cluster.

2. Have students send letters of inquiry to the various sources of information concerning these occupations.

3. Have students interview persons employed in these jobs.

4. Have students survey the responsibilities of people in these jobs and relate them to the use of math skills.

B. Skills

1. Percentages

2. Measurement

3. Money Management

4. Translation of Word to Number

5. Logic

C. Suggested Teaching-Learning Activities

1. Establish a banking situation with account managers, loan departments, etc. Figure compounded interest.

2. Establish a weather department in which students can figure scale distances and read thermometers.

3. Have a situation in which a policeman investigates an accident and must measure the distance involved and figure causes.

4. Compute the amount of a law suit. (lawyer or court cost)

5. Insurance situation in which students figure their insurance rates and needs

6. Situation in which a politician surveys and samples the opinions of his constituents

7. Situation in which a doctor must calculate the chances for the success of a certain procedure

8. Weather Bureau situation in which the odds in favor of certain weather conditions are calculated

9. Situation in which a news reporter takes an opinion poll

10. Have a courtroom situation in which the case for and against the metric system is argued.

11. Have a situation in which a policeman must reason by steps toward a solution of a crime.

12. Have a fireman estimate the amount of damage caused by a fire.

D. Suggested Resources

1. Field Trips

Police Headquarters
Legal Aid Society
Bank
Weather Bureau
Mayor's Office
Hospital
Fire Station
Water Company
Sanitation Station
City Dump

2. Films and Filmstrips

M-1090 -- Federal Reserve System
M-1230 -- Federal Taxation
M-1510 -- Fred Meets A Bank
M-3253 -- How Banks Serve
M-1225 -- Property Taxation
M-3164 -- Your Career in Journalism
M-3220 -- Installment Buying
M-1227 -- Sharing Economic Risks

MATH

CONSUMER & HOMEMAKING

A. Suggested Content

1. Conduct a bake sale to earn money for field trips.
2. List and discuss the occupations in this cluster.
3. Do research about these occupations.
4. Interview persons in these occupations.
5. Compile a list of how math skills are used by people in these jobs.

B. Skills

1. Logic
2. Measurement
3. Money Management
4. Percentages
5. Number Operations

C. Suggested Teaching-Learning Activities

1. Set up a Department Store situation complete from Board of Directors to sales people. Have each student calculate his salary and then make up a budget for the store.
2. Have a bargaining situation in which the salesman has a certain price which is a minimum and the customer can bargain over appliances, cars, etc.
3. Have students make out a complete home budget based on expenses incurred by their parents. Then assign hypothetical salaries for each to budget.
4. Have interested students design to scale an article of clothing, making each measurement in terms of the metric system.
5. Set up a loan company from which students can borrow money for major purchases. They must compute the accumulated interest and any other such charges, eg. taxes, etc.
6. Have each person file an income tax return based on his salary from the department store activity.
7. Compute the cost of living. Discuss how it rises and what influences it.

8. Compare advertisements of sale items and the amount in cans, etc. Compute actual savings.

D. Suggested Evaluation

1. The functioning department store

2. The computed tax forms

3. A comparison buying trip

4. Summaries of interviews conducted

E. Suggested Resources

1. Field Trips

Department Store
Better Business Bureau
Social Service Agency
Day Care Center
Internal Revenue Center

2. Films and Filmstrips - Louisville Board of Education

M-6062 -- Let's Visit a Shopping Center
M-6065 -- How is Clothing Made-The Story of Mass Production
M-1757 -- Nutritional Quackery
M-6320 -- People Who Work in Stores
M-2108 -- Restaurant Operator
M-3127 -- Your Earning Power
M-985 -- Distributing Food
M-1238 -- Consumer Protection
F-3151 -- So Your Budget Won't Budge
F-4507 -- Earning Your Money
F-6303 -- Protecting the Consumer

(For other films check the board catalogue, etc.)

MATH

AGRIBUSINESS
NATURAL RESOURCES
ENVIRONMENT

A. Suggested Content

1. Discuss and list the jobs which fall within this cluster. Do a bulletin board on each.

2. Interview persons who work in these jobs.

3. Conduct a campaign on cleaning up the environment.

4. Chart how math skills help persons in these jobs.

B. Skills

1. Money Management

2. Number Operations

3. Graphing

4. Geometry

C. Suggested Teaching-Learning Activities

1. Have students survey off a plot base for a garden. Have them figure the ratio of seed planted to area involved. Actually plant and raise some kind of garden.

2. Take a soil sample and calculate the percentages of the various soil and rock contents. (This could be conducted in conjunction with a science class.)

3. Conduct a "livestock auction" in which the students bid per pound of weight. They must keep records of their purchases and can spend only a certain amount of money.

4. Research and calculate a pollution index for the air. Keep charts on the daily reading.

5. Have a market situation in which the students must supply, market, keep records, pay salaries, etc.

6. Have students keep a graph of their family's water consumption each month. Then have the students calculate an estimate for the city's water use.

7. Have students construct a water system for a city. Have them draw up plans to a scale and calculate the expenses involved.

8. Have the students keep a record of the number of pollution offenses reported. Graph the results.

9. Keep an account of the price of hogs, cattle, corn, etc. for a period of time. Graph the results.

D. Suggested Resources

1. Field Trips

Farm
Stockyards
Ecology Court
Water Works
Hay Market
Supermarket
Louisville Water Company
State Wildlife Agency
Florist Shop
Ralston Purena
Meatpacking Company

2. Films and Filmstrips - Louisville Board of Education

M-3168 -- Careers in Agriculture
M-5981 -- Conservation to Save Our Environment
M-5757 -- Conserving Our Forests Today
M-6088 -- The Dairy Farmer
M-3769 -- Down on the Farm
M-6175 -- Farm Community
M-6312 -- The Garbage Explosion
M-5972 -- House of Man: Our Changing Environment
M-5973 -- House of Man: Our Crowded Environment
M-6317 -- Man's Basic Needs-Natural Resources
M-5707 -- Our Natural Resources
M-2007 -- Problems of Conservation: Water
M-5982 -- Water Pollution
M-1754 -- Food for a Modern World

MATH

HEALTH & PERSONAL SERVICES

I. Project Objectives (see the main unit)

II. Specific Objectives (set by each teacher)

III. Occupational Information

Health

Jobs in the administration family: public health administrator, hospital administrator, assistant administrator, clinic administrator.

Jobs in the prevention and control family: environmental engineer, sanitation engineer, microbiologist, epidemiologist, food and drug inspector, nutritionist, school health educator, hygienist.

Jobs in the treatment and care family: doctor, physician's assistant, dentist, dental assistant, dental hygienist and technician, nurse, practical nurse, psychiatric aide, medical technologist, dietician, hospital cook, orderly, ambulance driver, medical librarian, medical records clerk, pharmacist.

Jobs in the rehabilitation family: physical therapist, occupational therapist, speech and hearing therapist, prothesis and restoration technician, social worker, optician.

Jobs in the health education and communication family: health educator, medical illustrator, medical librarian, health economist, nutritionist.

Jobs in the medical research family: biochemist, biophysicist, epidemiologist, radiologist engineer and technician, statistician.

Personal Services

Jobs in the human body family: dressmaker, tailor, shoe shine boy, barber, cosmetologist, shoe repairman, ambulance driver, dentist, doctor, bartender, minister, cook, teacher, librarian, masseur.

Jobs in the home and property family: babysitter, detective, nursery school director, repairman, house painter, cabinet maker, insurance agent, furniture repairman, yardman, landscape architect, garbage collector, paper boy, domestic helper, interior decorator.

Jobs in the business and economics family: bank clerk, bail bondsman, messenger boy, secretary, lawyer, welfare worker.

A. Skills

1. Percentages
2. Statistics
3. Number Operations
4. Graphing
5. Logic

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B. Suggested Teacher-Learning Activities

1. Set up a hospital situation complete with administrators, accountants, doctors, nurses, orderlies, etc. Each earns a salary or fee from which appropriate deductions are made. Nurses might compute medicine dosages or charts. Each occupation can have related math problems.
2. Have students keep charts on which illness occurs during a given period of time. They could sample at random to arrive at percentages.
3. Have a courtroom situation in which lawyers are debating over the metric system.
4. Have "social workers" research certain areas of information and convert results into statistical data.
5. Have students take each other's temperature and pulse and keep chart records each day.
6. Have students logically arrive at a diagnosis of various illness given a set of symptoms.
7. Have students research their neighborhood and compile a list of various health problems. Convert this information into percentage statistics.
8. Have students analyze their food intake in terms of percentage.
9. As a hospital administrator the students can review and plan an operational hospital budget.
10. Have the students estimate hours and fees to be charged for services rendered by these occupations.
11. Have the students order supplies on a discount basis using percentage in occupations which use supplies.
12. Keep an account ledger of fees paid, operational costs, etc.

C. Suggested Resources

1. Field Trips

Hospital
Neighborhood Clinic
Legal Aid Society
Disease Control Agency
Social Work Agency
Barbershop
Beauty Shop
Cabinetmaker

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HEALTH AND PERSONAL SERVICES

SOCIOLOGY

A. Suggested Content

1. Awareness of the interdependence of all people in an urban society

2. Realize the great need for health care in an urban society

3. Appreciation of the careers in the health and personal services area

4. Improving their self concept

5. Understanding the need for better interpersonal relationships in their world of work

6. Understanding the need for better interpersonal relationships in their daily life

7. Develop habits and attitudes that will be useful in the world of work. These should include honesty, dependability, etiquette, dress, grooming, punctuality, following directions

8. Realization that their school life reinforces these very habits and attitudes which will later serve them in their career

B. Skills

1. Comparison skills

2. Keeping abreast of current affairs

3. Discussion skills

4. Problem-solving skills

5. Creative writing skills

C. Suggested Teacher-Learning Activities

1. On the chalkboard list the family roles MOTHER-FATHER-BROTHER-SISTER-YOURSELF. Have students list orally all the jobs each of these members of the family might perform for the family. List on board.

2. Have the students list orally all the places a family would have to go for services. These might include: a) grocery store, b) hospital, c) clinic, d) doctor, e) church, f) dentist, g) drugstore, h) welfare department, i) unemployment, j) clothing store, k) barber, l) day care center, m) insurance agent, n) furniture store, o) bank, p) lawyer, q) bail bondsman, etc.

3. For their career notebook, have the students list individually all the occupations from the places above which involve a service to others.

4. Field trip to Health Services center at the University of Louisville

5. Speakers on community health care: nurse, medical technologist

6. Collect newspaper articles about community health problems. List some of these. If you wish, you could study each one in depth -- such as alcoholism, tuberculosis, venereal disease, drugs.

7. Suggested speakers include: representative from the venereal disease clinic or the TB clinic of the Board of Health. Someone from the Temperance League of Kentucky, or A.A. might be good. A speaker from the youth commission could speak on teenagers and drugs as could a pharmacist on drug abuse.

8. Visit to a hospital.

9. Hands-on activity--set up a typical hospital admitting office. Show careers and their function.

10. Use the curriculum guide on Occupational Work Experience for materials on self concept. Make a list of all things you have done to help others.

11. Give students individually the personality, attitudes, and habits inventories in the above curriculum guide. Adapt to your situation.

12. Have the school guidance counselor in class for a discussion of careers. Make up ten to twenty problems using personality difficulties as a theme. Have individual students write their solutions. Let them contribute some to the class. You might also work in a discussion of the careers one might make use of to help with solving personal problems.

13. Write a description of a person you like very much.

14. Write a description of a person you dislike.

15. Collect pictures of the proper and improper way to dress at work.

16. Let students role play being an interviewer and interviewee for a job.

17. Prepare a checklist to use on how to conduct yourself during a job interview to be included in their career notebook.

18. Have a speaker from the personnel department of hospital or from the unemployment service to speak on how to get a job and why people get fired. Discuss afterwards.

19. Have a discussion on proper attitude on a job, etc.

20. Give the students a list of the careers relating to their study. Have them select three careers which sound interesting to them. Use library materials on careers to gather information on their selected careers. Summarize main aspects of each career for notebook. Include the aspects of training, education, salary, qualifications, employment outlook. Suggest interviews of people in these occupations.

D. Suggested Resources

1. Occupational Work Experience, curriculum guide, 1970.

2. Pamphlets from Drug Abuse Information Center, Temperance League of Kentucky, local TB Association, Heart Association.

3. Louisville Free Public Library (Films)

2-504 Matter of Time
2-23 Men of Medicine
3-323 Million Club (cancer)
2-754 Speedscene
2-756 Your Amazing Mind
3-444 LSD
3-452 Marijuana
3-526 Alcohol and You

4. Louisville Board of Education (Films)

M-1712 -- Alcohol and You
M-1762 -- Are Drugs the Answer?
M-1742 -- Narcotics, Pit of Despair
M-1749 -- The High Drugs and You
M-1744 -- Marijuana
M-1750 -- Marijuana, The Great Escape
M-3117 -- Are Manners Important?
M-1741 -- Cleanliness and Health
M-1701 -- How To Be Well-Groomed
M-1702 -- Your Family
M-2155 -- You and Your Parents
M-2157 -- Control Your Emotions
M-3100 -- The Job Interview
M-3101 -- Benefits of Looking Ahead
M-3106 -- Mind Your Manners
M-3141 -- Developing Self-reliance
M-3142 -- Developing Your Character
M-3175 -- The Dropout
M-3188 -- I Never Went Back
M-3214 -- Whom Would You Hire?
M-3908 -- Let's Be Neat and Clean
M-2138 -- How To Keep A Job

PUBLIC SERVICE

Prepared by

Barbara Preli
Project Director

Teachers: Billie Hicks
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PUBLIC SERVICE

I. Project Objectives (see the main unit)

II. Specific Objectives (set by each teacher)

III. Occupational Background

Jobs in the local service family: fireman, policeman, city councilman, school superintendent, school board member, deputy sheriff, jailer, telephone operator, city bus driver, lifeguard, mailman, paperboy, broadcaster, water purification worker, electrical worker.

Jobs in the state service family: state policeman, governor, superintendent of public instruction, child welfare worker, state park director, bus driver, mental health worker, rehabilitation worker, meat inspector, ecologist, worker at state university.

Jobs in the national service family: F.B.I. man, armed serviceman, congressman, army depot worker, taxpayer assistant, social security clerk, agricultural researcher, food and drug inspector, national airline pilot, public health doctor, veteran's hospital nurse, geological surveyor, national park worker, labor relations mediator, embassy worker, lock and dam attendant, postal inspector, federal prison guard.

Jobs in the international service family: international airline stewardess, international policeman, United Nations Clerk, interpretor, ship's crewman, overseas telephone operator, narcotic agent, satellite communications technician, exporter-importer.

A. Skills

1. Understanding of the importance of law enforcement officers to community safety

2. Awareness of the community service activities performed by the various public service agencies

3. Understanding of the postal system from pony express until present day

4. Understanding of positive and negative aspects of each career

5. Understanding of the career available in city government

6. Understanding of the functions of the United Nations

7. Awareness of the responsibilities and services performed by the armed forces (changes made since the draft-free system)

8. Understanding of the Social Security system and the medicare program

9. Concepts, responsibilities, and occupations of the three branches of the federal government

10. Awareness of the regulations placed on trade by the state and federal government

11. Understanding of the role of the community in the field of ecology

B. Suggested Teaching-Learning Activities

1. Take a field trip to city hall, fiscal court building, Louisville police station, fire station. Follow up with a discussion on the types of jobs seen and what service do they provide.

2. Compile a bulletin board display of pictures of people in this job cluster. If possible, obtain some pictures of old time police and fireman, etc.

3. Use the newspaper county statisties section to graph the occurrence of different crimes for a week.

4. Keep a running account of all the false claims or alarms turned into the fire department. Estimate the cost to the taxpayer.

5. Have a policeman from the model district police station speak on shoplifting, crime, etc.

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6. Request materials from the Youth Commission on juvenile crimes.

7. Make a list of careers in city government for a notebook. Watch the newspaper for stories about these workers.

8. Set up a model courtroom. Show careers of judge, jury, lawyer, policeman, bailiff, court recorder, bail bondsman, etc. Role play a case.

9. Take a field trip to the post office. List the careers for the notebook.

10. Report on the history of mail delivery in the United States. Use a time line.

11. Set up a model post office. Students can assume different roles.

12. Select some federal agencies to study, eg. F.B.I., F.D.A., etc.

13. Request pamphlets from the Food and Drug Association.

14. Prepare a bulletin board of items that are regulated by the federal government, eg. food, baby clothing, automobiles, liquor, etc.

15. Use a bulletin board to show items which have been recalled by the government with accompanying reports. Use Readers Guide to locate old magazine articles.

16. Relate careers in Agriculture, Natural Resources, and Environmental Control to the careers in government.

17. Conduct lessons on Social Security, unemployment, and/or welfare programs.

18. Graph the rate of unemployment in our country per month.

19. Conduct lessons on the United Nations.

20. Do a sociodrama of a session of the United Nations. Let students be the delegates from different countries, clerks, interpreters, etc.

21. The theme for the sociodrama could be the presentation of a problem of some small country to the assembly.

22. Have each student select four jobs from the clusters explored and summarize their findings for their notebooks. If possible, include an interview with a person on the job. Include in reports training, salary, qualifications, fringe benefits, and employment outlook.

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C. Suggested Evaluation

1. Use the classroom as a model community. Elect officials, pass laws, set up the law enforcement agencies to enforce laws and rules made by the class-elected legislature.

2. Establish a court for offenders.

3. Run a campaign for the various elected offices and appoint some officials.

4. A sample civil service exam could be given and jobs awarded to the students that qualify.

D. Suggested Resources

1. Field Trips

Police Station
Fire Department
Post Office
Court
Fort Knox
Unemployment Office
Senator or Representative
City Hall
Board of Alderman Meeting
School Board Meeting

2. Films - Louisville Board of Education

M-6171 -- Governing Our Local Community
M-6219 -- The Policeman and His Job
M-716 -- Our National Government
M-3624 -- Our Post Office
M-776 -- Meet Your Federal Government
M-6240 -- Justice, Liberty, and Law
M-772 -- How We Elect Our Representatives
M-6053 -- Government and Law
M-3755 -- The First Tuesday after the First Monday
M-720 -- Federal Bureau of Investigation
M-6176 -- Equality Under Law
M-3608 -- Community Governments-How They Function
M-6169 -- Community Services
M-6220 -- Changing the Law

CONSTRUCTION

URBAN HOUSING

A. Suggested Content

1. Students list all the things in the classroom made of steel. List all the materials used in the construction of the school building.

B. Skills

1. Awareness of the current trend toward renewal of urban areas

   a. Speaker from the Urban Renewal agency. They present a very effective set of slides on urban renewal in Louisville showing construction in particular.

2. Awareness of the need for urban renewal

   a. Dictionary exercise on pertinent words

      (1) slum, slum dwellers, subdivision, tenements, suburban areas, building codes, public service, zoning laws, etc.

   b. Discuss differences in urban and suburban housing trends.

   c. Discuss causes of slums, need for urban renewal.

3. Interview skills

   a. Have several class members interview residents in low income neighborhoods about their attitudes toward their neighborhoods and how they believe conditions can be improved.

   b. Have a representative from the Building and Housing Department speak to the students about building codes. Ask them to bring pamphlets which they distribute on how to discern and report violations to this agency.

   c. Discuss planning and zoning. Speaker possible from the planning and zoning commission, also.

4. Awareness of construction trades

   a. Have students list for their career education notebook all the careers which would be involved in the construction industry.

   b. Visit a subdivision, then show film from the Board, "Workers Who Build Houses."

C. Suggested Evaluation

1. Hands-on activity

   a. Do a lesson on the frontier house. Then have one group of students design and build a model of a frontier home.

b. Have a second group design and build a model of a 3-bedroom suburban home.

c. Have another group design and do a papier mache model of low-income housing project for 200 people.

d. Have another group design and do a papier mache or cardboard model of a junior high school.

2. Research skills

a. Have the students select one career from this cluster and add to their career notebook. Summarize main aspects of each career, including training, education, salary, qualifications, employment outlook.

D. Suggested Resources

1. Books

a. Housing, People and Cities

b. Selected Free Materials for Classroom Teachers

c. Squeeze: Cities Without Space

d. Urban Renewal and American Cities

2. Field Trips

a. Building of Samuel V. Noe Middle School

b. Modern Concrete's Plant

c. Visit subdivision being built

3. Films

a. Board of Education (Movies)

(1) M-6008 Workers Who Build Houses
(2) M-3165 Careers in the Building Trades
(3) M-2100 House Builders

b. Youth Opportunity Center (Tape Recording)

(1) 152 Draftsman, Electrician, Plumber, and Pipefitter

4. Speakers

a. Urban Renewal

b. Building and Housing Department

c. Planning and Zoning Commission

d. Al Schneider

e. Carpenter, Plumber

f. Instructor in building trades from
Louisville Vocational School

g. Union Representative

ENGLISH

HEALTH

A. Suggested Content

1. Discuss with the class the jobs in this cluster.

2. Let each child choose a career in this category which interests him and write a special report.

3. Interview people employed in these jobs.

4. Discuss and chart how communication skills are used by these people in their jobs.

B. Skills

1. Special Reports

   a. Introduction to writing a report
   b. Locating information outside of books
   c. Locating information in the library
   d. Use of reference books
   e. Taking notes
   f. Writing a summary

2. Interviews

   a. Learn interviewing skills
   b. Listening skills
   c. Questioning skills
   d. Analyzing information

3. Vocabulary

4. Role Play - Sociodrama

5. Letter Writing

   a. Introduction to social and business letter

C. Suggested Teaching-Learning Activities

1. Gather information on health jobs and report to the class in a unique way.

2. Write letters asking for information on these jobs.

3. Compile a class vocabulary list of all new words learned.

4. Interview persons employed in these areas.

5. Do a sociodrama on a hospital admitting room, dentist office, etc.

6. Compose job descriptions advertising these jobs.

7. Locate human interest stories in the newspaper about persons in this cluster.

8. Watch and report on current television programs with health careers as a feature.

9. Write editorials or articles about current health problems facing the community.

10. Write on health care in the future.

11. Compose poems, slogans, and posters on good health care.

12. Let the class conduct a physical fitness campaign.

D. Suggested Resources

1. Field Trips

Hospital
Board of Health
Animal Hospital
University of Louisville Medical School
University of Louisville Dental School
Our Lady of Peace
Region Eight Mental Health
Seminary
Drug Store - Pharmacy

2. Films and Filmstrips

Louisville Board of Education:

M-1701 -- How To Be Well-Groomed
M-2157 -- Control Your Emotions
M-3120 -- Personality and Emotions
M-3163 -- Your Career as a Secretary
M-3253 -- How Banks Serve You
F-3107 -- The Nurse's Aid
F-3306 -- Grooming
F-3308 -- Right Clothes for You
F-332 -- Dollars of Health

Louisville Free Public Library:

3-98 -- Lease on Life
3-9 -- Monkey on the Back
2-23 -- Men of Medicine
2-156 -- Girls in White

ENGLISH

BUSINESS & OFFICE

MARKETING & DISTRIBUTION

A. Suggested Content

1. Discuss and chart with the class the occupations within the clusters.

2. Collect pictures, newspaper articles, etc., and make bulletin boards.

3. Plan and carry out a class distribution project (students and teacher).

4. Organize a miniature office to run the business part.

5. Discuss with the class how communication skills are utilized in this job.

B. Skills

1. Library work

2. Vocabulary

3. Letter writing

4. Research

5. Paragraph construction

6. Sentence structure

7. Use of nouns, pronouns, modifiers

C. Suggested Teaching-Learning Activities

1. Conduct research with the class. Let each child choose a certain job to research.

2. Conduct interviews with persons employed in these occupations.

3. Arrange for on-site observation trips by the students.

4. Compose job descriptions for each occupation.

5. Write business letters to obtain additional information.

6. Compose and construct posters advertising the product to be distributed.

7. Compose and edit memos to office workers about their jobs.

8. Compose concise directions on how to construct the product chosen by the class.

9. Compose jingles, slogans, etc. to be used in advertising the product.

10. Play occupational charades.

11. Keep a vocabulary list of new words learned. Identify parts of speech.

D. Suggested Evaluation

1. Role play an office scene with each student playing a role of a type of worker.

2. Distribute posters and advertising media.

3. Sell the item produced by the class.

E. Suggested Resources

1. Field Trips

Junior Achievement
Bank
Loan company
Sullivan Business College
Different types of offices
Personnel Departments
Training sites at local industry
IBM

2. Films and Filmstrips

Louisville Board of Education

M-3200 -- The Secretary-A Normal Day
M-213 -- Secretary Takes Dictation
M-210 -- Bookkeeping and You
M-3300 -- Computer Revolution

Louisville Free Public Library

55-2-257 -- Industry on Parade
2-80 -- Public Relations
2-83 -- Round Trip: U.S.A. in World Trade
39-2-241 -- Industry on Parade
5-2-199 -- Industry on Parade

FINE ARTS AND HUMANITIES

ANTHROPOLOGY

A. Suggested Content

1. Develop the concept of culture.

2. Develop appreciation of different forms and expressions of fine arts.

3. Develop an awareness of past culture.

4. Develop an understanding of the influence of history and environment on culture.

5. Develop an awareness and appreciation of cultural variation.

6. Become aware of the cultural opportunities in their own community.

B. Skills

1. Creativity

2. Research

3. Writing

4. Note taking

5. Dioramas

C. Suggested Teaching-Learning Activities

1. Have each student bring into class something which he thinks is beautiful. Make a display.

2. Make a trip to the Speed Art Museum. Have each student bring in a drawing he made himself of something he saw there. Make a bulletin board display of these drawings.

3. Discuss the different forms of fine arts such as painting, sculpture, music, architecture, clothings, drama, interior design.

4. Play recordings of different kinds of current music. Include hard rock, jazz, country and western, classical, environmental, soul, spiritual, pop. Have all students write down what they feel as they listen to the musical selections. You can do the same with paintings, etc. Discuss different forms of expression, discuss appreciation for different forms of artistic expression.

5. Through the textbook and teacher prepared duplicated lessons, develop a unit on anthropology. Groups which are exceptionally good

for this study are: American Indian tribe, Japanese, desert nomads of the middle east, bushmen of Africa, Eskimoes, American hippies. Make a thorough study of these cultures, showing how they vary and how the environment influences cultural expression.

6. Construct dioramas of houses.

7. Make or draw costumes.

8. Collect pictures of art.

9. Compare foods.

10. Do library research.

11. Do mural for bulletin board comparing cultures. Show movies on the music of Japan, Africa, Middle East, American Indian.

12. Show movies on arts of Japan, African sculpture, pottery, ballet and folk art. Play games of the representative cultures being studied.

13. Suggested field trips to Actor's Theatre, WHAS, Hadley's Pottery, Junior Art Gallery, Little Loom House, Louisville Library Museum.

14. Suggested speakers: performer from WHAS, instructor or student from Louisville Art School, a commercial artist, cartoonist, night club entertainer, architect, editor of the school newspaper, director of the West Side Players, a ceramic instructor.

15. Collect arts and crafts ads and booklets.

16. Give the students a list of the careers relating to their study. Have them select three careers which sound interesting to them. Use library materials on careers to gather information on their selected careers. Summarize main aspects of each career for their career notebook. Include the aspects of training, education, salary, qualifications, employment outlook. Suggest they interview people engaged in their occupation, if possible.

D. Suggested Evaluation

1. Have a culture "Show and Tell." Have each student bring in something he or she made. Display.

E. Suggested Resources

1. Books

Anthropology: A Global Approach. Curriculum guide available of curriculum, Louisville Board of Education. Date, 1967. Still useful.

Aubrey, Ruth. Selected Free Materials for Classroom Teachers. Belmont, California, Fearon Publishers, 1971. Available at media center.

Curriculum guide on Field trips.

Cutler, Charles. Anthropology in Today's World. Middletown, Connecticut: Xerox Publications, 1965. Very good, priced at 40¢ each.

Mead, Margaret. People and Places. New York: Bantam Books, 1963. Excellent.

2. Films and Filmstrips

Board of Education:

M-3444 Humanities: What They Are, What They Do
M-6122 Museum Man
M-1094 Alaska-Eskimo Hunters
M-5858 Alaskan Eskimo
M-633 Eskimo Children
M-3686 Eskimo Family
M-3684 Land of the Navahos
M-3792 Nation Within A Nation: Navajoland, USA
M-6121 The Navajos: Children of the Gods
M-3148 Music, Career or Hobby
M-3162 Your Career in Architecture
M-3160 Your Career in Elementary Teaching
M-3484 Art - What Is It? Why Is It?
M-37 Arts and Crafts of Mexico
M-3683 Silk Makers of Japan
M-3685 Indians of Early America
M-940B Hand Industries of Mexico

Louisville Free Public Library:

3-474 American Folk Art
3-107 Arts of Japan
3-496 Art of the Sixties
1-277 Ballet of the Paris Opera
1-28 Buma, African Sculpture Speaks
1-183 Colour in Clay
3-551 Discovering American Indian Music
2-739 Discovering the Music of Africa
2-740 Discovering the Music of India
2-741 Discovering the Music of Japan
2-743 Discovering the Music of the Middle East
2-735 Discovering Jazz
2-317 Country of Islam
1-79 Pottery Making
2-434 Remnants of a Race
2-263 Rhythm of Aftica

SOCIAL STUDIES

COMMUNICATION

A. Suggested Content

1. Discuss and chart with the class the groupings of jobs within this occupational cluster.

2. Break the class into groups of six or seven to procure their version of the evening news broadcast, including anchorman, sports, weather, one man's opinion, roving reporter, commercials. Each person prepares his own script.

B. Skills

1. Concept of the modern development of communications: audio, visual, and audiovisual

2. Interrelationships of product advertising and communication

3. Research skills

4. Time Line of how communication skills have influenced our nation's history

5. Discussion of the need for communication among people, nations, etc.

6. Discussion of what communication will be like in the future

C. Suggested Teaching-Learning Activities

1. List the communication devices under each category:

audio-radio, records, telephone, telegraph, P.A. systems, voice, sportscasters
visual-newspapers, books, billboards, leaflets, circulars, magazines, catalogs, signs, cartoons, photographers
audiovisual-television, movies, drama, performing arts

2. Divide the class into groups and let each group do a short history of one means of communication and present findings to the class using a variety of media.

3. Collect old copies of leaflets, circulars, magazines for a display.

4. Role play the running of an advertising promotion for a politician, an historical film or historical park or landmark. This could include slogans, etc.

5. Add the career descriptions to the class notebooks of job descriptions from this cluster.

6. Conduct a class debate or panel on problems facing our community, eg. price increase, pollution, crime, etc.

7. Conduct a "You Are There" program about history.

D. Suggested Resources

Field Trips

Television station
Radio station
Western Union
Airport controller
Publishing house
Newspaper
Southern Bell

Films and Filmstrips

M-3221 -- Newspaper Boy
Courier Journal - Story of the Newspaper

SOCIAL STUDIES

HOSPITALITY & RECREATION

A. Suggested Content

1. Discuss and chart with the class the groupings of jobs within this cluster.

2. Discuss the need for these types of jobs within our society.

3. List the various types of leisure time activities we enjoy today. Trace the history of each. Compare with activities enjoyed at certain key historical events in our history.

B. Skills

1. Appreciation for the cultural heritage of our country

2. Research skills

3. Map skills

4. Awareness of the need for recreation in our society today

5. How travel and leisure time activities can broaden one's view

6. How these services or goods contribute to the economic system of our country

7. Awareness that human relations can be improved through leisure time activities, sports, etc.

8. What people will do for enjoyment 200 years from now

C. Suggested Teaching-Learning Activities

1. Display the hobbies and crafts of members of the class.

2. Post a map from the Metropolitan Parks & Recreation on the bulletin board. Outline in yarn Jefferson County--use colored pins to plot parks and recreational areas.

3. Invite speakers in these jobs to the classroom for an interview.

4. Make poster showing our national parks. Discuss what types of landforms are around them.

5. Make a poster showing Kentucky's park system. How many of these are near historical landmarks? Do a short history on each one.

6. Write a letter requesting information from the park system on motel management.

7. Divide the class into small groups and let them research the city of Louisville for recreational sites and offerings.

8. Collect articles from the newspaper daily throughout the unit for any articles relating to the topic. Place where all can see.

9. Do a salt map of a park and all its facilities.

10. Construct a diorama showing recreation then, now, and future.

AGRI-BUSINESS, NATURAL RESOURCES,
ENVIRONMENTAL CONTROL

GEOGRAPHY

A. Suggested Content

1. To consider in general the great natural resources America possesses

2. To explore how our vast natural resources have contributed to America's greatness

3. To be alert to the danger that threatens our nation and the world from the loss of soil, misuse of water, destruction of forests and the waste of minerals

4. To develop the concept of rural and urban and the interdependence of the two areas economically

5. To understand how agricultural improvements have been a major cause of urban growth because of the reduced need for farmers

6. To recognize the need for environmental control

7. To increase knowledge of the career opportunities in the areas of agriculture, natural resources, and environmental control

B. Skills

1. Reading map and use of map legends

2. Interpreting landform maps

3. Finding directions on a map

4. Drawing a map

5. Improving geography vocabulary

6. Using the newspaper to keep abreast of current events

7. Problem solving skills

8. Research skills

9. Writing skills

10. Note-taking skills

11. Keeping a notebook for future reference

12. Investigative or interviewing skills

C. Suggested Teaching-Learning Activities

1. Discuss the concept of environment. Give each student a copy of the map of Louisville. Practice locating places of major importance in the environment of Louisville. Include parks, factories, hospitals, airports, schools, government buildings, the Ohio River, tourist and historical attractions.

2. Have students draw a map on their way home from school of the area they travel between school and their home. Have them indicate on their map the places of importance in the environment similar to the ones they have just located on the map of Louisville.

3. Let students draw their maps on the chalkboard. Compare. Have other students make a list of some of the places classmates put on their maps. This list could be placed in their career notebook. Then have all students make a list of all the careers that would be found in the places they have named as being important in their environment.

4. Show the film "House of Man: Our Changing Environment." Follow up.

5. Develop the concept of the urban environment we deal with and the rural environment we depend upon. Discuss how a city depends upon the rural area for products-- food, water, minerals, forests, petroleum, etc.

6. Field trip to Belknap Farm in Goshen, Kentucky. Group will see cattle, haying, loading of silo. They may picnic on the grounds.

7. Field trip to a local dairy.

8. Field trip to the Haymarket in Louisville.

9. Speaker from the WAVE farm bureau or WHAS farm department.

10. Watch and report to the class on the Barney Arnold farm report on television each morning at 7 a.m.

11. Show movies "The Dairy Farmer," "Down on the Farm," "Where Does Our Food Come From."

12. Using the chapter in Living As World Neighbors, pp. 426-433, develop the concept of the three types of natural resources: unfailing, renewable, and exhaustible.

13. Discuss how the Indians used the land.

14. Discuss how the early settlers used the land.

15. Using the book Living As World Neighbors, pp. 434-435, begin to make a list of the occupations related to the use of natural resources for career notebook.

16. Interpret and discuss maps on pages 436-437 on world farming of cotton, corn, rice, and wheat.

17. Using pp. 444-452 in Living as World Neighnors, have students outline this section on conservation.

18. Give four people an extra assignment by letting each do library research and report back to the class on the passenger pigeon, Labrador duck, the buffalo and the whooping crane. Tell the class where they once lived, how plentiful they were, and what happened to them.

19. Someone from the water company could talk to the class and discuss the source of our water supply, the quantity consumed--both now and in the past--water purification and how each person can help conserve water.

20. Do the "cause and result" exercise on p. 463 of Living as World Neighbors.

21. Using unit one in the textbook Using the Social Studies, discuss how things were before man came and things that were added to the earth by man.

22. Use textbook and teacher-prepared duplicated materials to increase knowledge of natural resources in Kentucky and the U.S.

23. Make a map or poster showing Kentucky's natural resources.

24. Make a map or poster showing America's main natural resources.

25. Make charts to compare America's supply of natural resources with other nations.

26. Have students compose a dictionary of geographical terms related to the unit. (Examples: ecology, horticulture, conservation, agriculture, geology, seismology.)

27. Discuss need for environmental control. Use the ecology court section of the county news on record in the newspaper each day and keep a running account of environmental polluters.

28. Collect newspaper articles on pollution, conservation, farms, etc.

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29. Show films "Conservation to Save Our Environment," "Conserving Our Forests Today," "The Garbage Explosion," "Man's Basic Needs, Natural Resources," "Problems of Conservation--Water and Wildlife," "Water for the Community," "Water Pollution."

30. Suggested field trips to Bernheim Forest, ecology court.

31. Suggested speakers-- representative of city sanitation department, representative of U.S. Army Corps of Engineers, representative of Air Pollution Control Board, representative of the Louisville Water Company.

32. Have a representative from Strategies for Environmental Control talk to the class about their recycling program. Have the class collect old newspapers or aluminum cans for recycling. Advertise their efforts school-wide.

33. Interview a neighborhood grocer about the sources of his stock.

34. Have students inspect their family's kitchen as an inspector would do a restaurant.

35. Field trip to Bourbon Stockyards. Students will see receiving and handling of stock facilities such as pens, people and animals, weighing of stock. Wednesday and Thursday are best days for visiting.

36. Field trip to Korfhage's Florist.

37. Divide the class into six small groups. Give each group a specific problem related to their study to solve. Each problem would also reflect a problem faced by a person whose occupation would fall into this job cluster. (Examples: public health worker seeking the source of an epidemic, a sanitation worker dealing with polluted water, a restaurant facing closure by a health inspector, a farmer facing problems of flood, drought, etc., a garbage collector on strike, a forest ranger controlling polluters or fires.) Use this activity to concentrate on the jobs in this cluster. Have each group report their solution to the class.

38. Give the students a list of the careers relating to their study. Have them select three careers which sound interesting to them. Use library materials on careers to gather information on their selected careers. Summarize main aspects of each career for their career notebook. Include the aspects of training, education, salary, qualifications, employment outlook. Suggest they include interviews of people engaged in this actual occupation, if possible.

39. Show films on careers in agriculture, forestry, meteorology.

D. Suggested Evaluation

1. Many people pay little attention to the problem of conserving our natural resources. Have groups either write a television show to show the audience the problem or have them make a poster urging conservation or pointing out the need for environmental control.

E. Suggested Resources

1. Books

Aubrey, Ruth. Selected Free Materials for Classroom Teachers. Belmont, California: Fearon Publishers, 1971. (Available at media center.)

Cuban, Larry, ed. Can Earth Survive? Glenview, Illinois: Scott, Foresman, and Co., 1972. (A good paperback priced at 75¢)

Cutright, Prudence, et.al. Living As World Neighbors, pp. 1-17, 42-55, 56-96, 424-452.

Field Trips, curriculum guide, division of curriculum, Louisville Board of Education.

King, Frederick, et.al. Using the Social Studies, pp. 4-47.

2. Films and Filmstrips

Board of Education:

M-3168 -- Careers in Agriculture
M-5981 -- Conservation to Save Our Environment
M-5757 -- Conserving Our Forest Today
M-6088 -- The Dairy Farmer
M-3769 -- Down on the Farm
M-6175 -- Farm Community
M-6312 -- The Garbage Explosion
M-5972 -- House of Man: Our Changing Environment
M-5973 -- House of Man: Our Crowded Environment
M-6089 -- The Lumberman
M-6317 -- Man's Basic Needs- Natural Resources
M-5707 -- Our National Resources
M-2007 -- Problems of Conservation: Water
M-6311 -- Problems of Conservation: Wildlife
M-5700 -- Water for the Community
M-5982 -- Water Pollution
M-3631 -- Where Does Our Food Come From?
M-3174 -- Your Career in Forestry
M-3161 -- Your Career in Meteorology